UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,403	07/28/2003	Qiong Liu	FXPL-01063US0	7211

23910 7590 06/09/2009

FLIESLER MEYER LLP
650 CALIFORNIA STREET
14TH FLOOR
SAN FRANCISCO, CA 94108

EXAMINER	
STOKELY-COLLINS, JASMINE N	

ART UNIT	PAPER NUMBER
2423	

MAIL DATE	DELIVERY MODE
06/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,403	LIU ET AL.	
	Examiner	Art Unit	
	JASMINE STOKELY-COLLINS	2423	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32,34,35 and 37-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32,34-35,37-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 3/12/2009 have been fully considered but they are not persuasive.

On page 13, applicant argues that none of the cited references teach manipulating information in live video images. The examiner disagrees; "Manipulating a visual representation of the information in the first live video image and in the second live video image" is taught by Saka (see fig. 12 and pg. 4 sect. 0042). Saka teaches exact images of two different desktops being shown side-by-side. When a user wants to transfer information, he drags (i.e. manipulates) an icon (i.e. a visual representation of the information) from a live view of one desktop (a first live video image) to a live view of a second desktop (a second live video image). Both of the devices *have hotspots* (icons) on the respective views of their desktops that, when manipulated or accessed, cause the associated information to have some action done to it. The term "live video image" includes the image of the client's desktop because the desktop image is a current and updated (i.e. live) *appearance of text and graphics on a video display* (which is definition of "video" as defined in The American Heritage Dictionary of the English Language).

Claim 10 contains amendments similar to those of claim 1 and the above argument made in regard to claim 1 also applies to claim 10. Claim 10 limitation requiring the hotspot to be dynamically defined is also met by Saka because the icon (hotspot) can be moved.

Applicant argues on page 15 of his remarks that claim 18, as amended, is not taught by Ludwig in view of Schneiderman. The examiner disagrees; Schneiderman teaches annotating an "image aspect" (col. 7 ll. 4-9), where an image aspect is defined as "a scene, **object**, event, design, etc" (col. 7 ll. 23-25). A "device", by definition, encompasses any thing made for a particular purpose. Therefore any object that has a purpose qualifies as a device. Although Schneiderman uses a person as an illustrative example, he makes it clear that his invention does not only apply to annotating images of people. Furthermore, Schneiderman's annotation is transferred to a particular image aspect, or person in the illustrative example. It is clear that the annotation is not intended to apply to the entire image, but to the image aspect which it is drawn over (see col. 7 ll. 53-54 "Fig. 7 shows the annotation of four identified individuals"). In fig. 5, the annotation of Rae Earnshaw applies only to the portion of the image that is Rae Earnshaw. The user choosing an X,Y location in the image is a means to associate the annotation to Rae, since Rae's X,Y location is a way of representing him. Schneiderman transfers Rae's annotation to him by transferring it to an X,Y location that is associated with Rae.

However, the examiner notes that applicant's arguments are addressed toward a moving image and introduces US Patent 6,711,590 to Lennon. Lennon teaches a technique to track and link annotations to objects in a moving video (abstract, fig. 4 and col. 10 ll. 61-col. 11 ll. 5). It would have been obvious to use the technology taught by Lennon to associate annotations with the objects in the video shared between participants of Ludwig's video conference for the benefit of expanding the annotation

capabilities of a video teleconference and increasing the clarity of communication between participants. Ludwig's "devices" (a thing made for a particular purpose) are anything appearing in his video images, ranging from charts and graphs to objects in participants video. Although this reference is not relied upon in the rejection of the claims, the examiner would like to call to applicant's attention that the annotation of objects in a moving video is known.

On page 17, applicant argues that amended claim 24 is not taught by the cited references. The examiner disagrees; Claim 24, which now contains limitations similar to those of cancelled claim 33 as well as the additional limitation of annotations being transferred to a physical device in the live views if the annotation is at least partially drawn over the physical device as it appears in the live video image, is taught by Emens in view of Ayatsuka, Burt, and Schneiderman. As previously pointed out in the examiner's above discussion of claim 18, Schneiderman teaches annotating an "image aspect" (col. 7 ll. 4-9), where an image aspect is defined as "a scene, **object**, event, design, etc" (col. 7 ll. 23-25). A "device", by definition, encompasses any thing made for a particular purpose. Therefore any object that has a purpose qualifies as a device. The annotation applies to the image aspect which it is drawn over.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-5, 9-14, 16-17, and 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Okuno (US 6,977,672 B1) and further in view of Saka (US 2004/0070608 A1).

Regarding claim 1, Ludwig teaches a method for exchanging information in a shared interactive environment (abstract) comprising:

a first live video image and a second live video image (figure 40 element 203 shows multiple live video images)

Ludwig does not teach selecting a first physical device in a first live video image wherein the first physical device has information associated with it;

causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information in the first live video image and in the second live video image;

wherein at least one of the first physical device and the second physical device has a statically or dynamically defined hotspot in the first live video image and or the second live video image;

wherein the manipulation includes interacting with the first live video image and the second live video image;

wherein the first physical device and the second physical device are part of the shared interactive environment; and

wherein the first physical device and the second physical device are not the same.

Okuno teaches an interactive environment that includes selecting a first physical device in a first live video image wherein the first physical device has information associated with it (figure 17 and column 4 lines 23-32, figure 18 and column 4 lines 35-41, figure 19 and column 4 lines 45-52,);
wherein manipulation includes interacting with the live video images (column 4 lines 38-41, figure 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Okuno's teaching of using remote camera control and a live video image of a device in order to remotely manipulate/interact with said device with Ludwig's videoconferencing invention for the benefit of allowing video conference participants to control computers, printers, and other commonly used conference devices that are not physically reachable.

Ludwig in view of Okuno does not teach causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information in the first live video image and in the second live video image;
wherein at least one of the first physical device and the second physical device has a statically or dynamically defined hotspot in the first live video image and or the second live video image;
wherein the first physical device and the second physical device are part of the

shared interactive environment; and

wherein the first physical device and the second physical device are not the same.

Saka teaches causing information to be transferred to a second physical device wherein the transfer is brought about by manipulating a visual representation of the information in a the first live video image (local desktop image) and in the second live video image (remote desktop image) (page 1 section 0011) (Ludwig, in col. 4 ll. 60-65 teaches sharing screen snapshots such as the live desktop images used in Saka);

wherein at least one of the first physical device and the second physical device has a statically or dynamically defined hotspot in the first live video image and or the second live video image (see icons in fig. 12);

wherein the first physical device and the second physical device are part of the shared interactive environment (page 1 section 0011); and

wherein the first physical device and the second physical device are not the same (page 1 section 0011). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the information transfer interface taught by Saka in the videoconferencing with remote control of devices taught by Ludwig in view of Okuno for the benefit of providing videoconference participants with a convenient and simple (for participants) method of sharing information. For example, the action of sending data to the printer disclosed in Okuno (figure 10 shows an interface for controlling the printer, where the

structure of the commands to carry out the actions are shown in figure 9 list element 7 and figure 5) from a computer as disclosed in Saka would be carried out using Saka's "drag and drop" method. Alternatively, Okuno's printer could be replaced with one of Saka's remote machines so that control of the multiple computers disclosed in Saka's network could be initiated by the live video image manipulation taught by Okuno.

Regarding claim 2, when read in light of claim 1, Saka further teaches the manipulation is accomplished by dragging the representation from the first physical device and dropping the representation on the second physical device (abstract).

Regarding claim 3, when read in light of claim 1, limitation "changes to the physical devices are visible to all participants in the shared interactive environment" is inherent. If all participants in the videoconference have the capabilities disclosed in Ludwig in view of Okuno and Saka, all participants would have the ability to focus on any physical device and obtain current associated information, which would reflect any changes.

Regarding claim 4, when read in light of claim 1, Okuno further teaches a physical device can include a printer (figure 18). In regards to limitation "a physical device can include a display, a projector, a facsimile machine, a

personal digital assistant, a computer, and a portable computer", Okuno further discloses in column 5 lines 58-64 that commands can be executed on devices with addresses, such as IP addresses . It is well known in the art that displays, projectors, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 5, when read in light of claim 1, Ludwig further teaches annotating at least one of the first live video image and the second live video image (fig 2b, col. 6 ll. 57-61. Updates/annotations are made to the image in real time).

Regarding claim 9, when read in light of claim 1, Okuno further teaches at least one of the first physical device and the second physical device has associated with it a pop-up control panel through which a user can configure and control it (figure 18, column 4 lines 38-41).

Regarding claim 10, Ludwig teaches a method for exchanging information in a shared interactive environment (abstract), comprising:
a first live video image and a second live video image (figure 40 element 203 shows multiple live video images).

Ludwig does not teach selecting a first object wherein the first object is one of: 1) a physical device in a first live video image and 2) an icon on a

computing device;

causing information associated with the first object to be transferred to a second object wherein the second object is the other of 1) the physical device in a first live video image; and 2) the icon on the computing device;

wherein the first physical device has a dynamically defined hotpot in the first live video;

wherein the transfer is brought about by manipulating a visual representation of the information;

wherein the manipulation includes interacting with the first object and the second object; and

wherein the physical device is part of the shared interactive environment.

Okuno teaches selecting a first object wherein the first object is one of: 1) a physical device in a first live video image (figure 17 and column 4 lines 23-32, figure 18 and column 4 lines 35-41, figure 19 and column 4 lines 45-52); and 2) an icon on a computing device;

wherein the manipulation includes interacting with the object in the live video (column 4 lines 38-41, figure 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Okuno's teaching of using remote camera control and a live video image of a device in order to remotely manipulate/interact with said device with Ludwig's videoconferencing invention for the benefit of allowing video conference participants to control

computers, printers, and other commonly used conference devices that are not physically reachable.

Ludwig in view of Okuno does not teach causing information associated with the first object to be transferred to a second object wherein the second object is the other of: 1) a physical device in a first live video image; and 2) an icon on a computing device;

wherein the first physical device has a dynamically defined hotpot in the first live video;

wherein the transfer is brought about by manipulating a visual representation of the information;

wherein the manipulation includes interacting with the first object and the second object; and

wherein the physical device is part of the shared interactive environment.

Saka teaches causing information associated with the first object to be transferred to a second object wherein the second object is the other of: 1) a physical device in a first live video image; and 2) an icon on a computing device (page 1 section 0011);

wherein the first physical device has a dynamically defined hotpot in the first live video (see fig. 12 icons).

wherein the transfer is brought about by manipulating a visual representation of the information (icon) in the first live video(page 1 section 0011);

wherein the manipulation includes interacting with the first object in the first live video image and the second object (page 1 section 0011); and

wherein the physical device is part of the shared interactive environment (page 1 section 0011). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the information transfer interface taught by Saka in the videoconferencing with remote control of devices taught by Ludwig in view of Okuno for the benefit of providing videoconference participants with a convenient and simple (for participants) method of sharing information. For example, the action of sending data to the printer disclosed in Okuno (figure 10 shows an interface for controlling the printer, where the structure of the commands to carry out the actions are shown in figure 9 list element 7 and figure 5) from a computer as disclosed in Saka would be carried out using Saka's "drag and drop" method. Alternatively, Okuno's printer could be replaced with one of Saka's remote machines so that control of the multiple computers disclosed in Saka's network could be initiated by the live video image manipulation taught by Okuno.

Regarding claim 11, when read in light of claim 10, Saka further teaches the manipulation is accomplished by dragging the representation from the first object and dropping the representation on the second object (abstract).

Regarding claim 12, when read in light of claim 10, limitation "changes to the physical device are visible to all participants in the shared interactive environment" is inherent. If all participants in the videoconference have the capabilities disclosed in Ludwig in view of Okuno and Saka, all participants would have the ability to focus on any physical device and obtain current associated information, which would reflect any changes.

Regarding claim 13, when read in light of claim 10, Okuno further teaches a physical device can include a printer (figure 18). In regards to limitation "a physical device can include a display, a projector, a facsimile machine, a personal digital assistant, a computer, and a portable computer", Okuno further discloses in column 5 lines 58-64 that commands can be executed on devices with addresses, such as IP addresses . It is well known in the art that displays, projectors, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 14, when read in light of claim 1, Ludwig further teaches annotating the first live video image (fig 2b, col. 6 ll. 57-61. Updates/annotations are made to the image in real time).

Regarding claim 16, when read in light of claim 10, Okuno further teaches the information can include a digital file (column 4 lines 25-29), a sound (column 4 lines 29-32), and an audio/video presentation (column 4 lines 29-32).

Regarding claim 17, when read in light of claim 10, Okuno further teaches the physical device has associated with it a pop-up control panel through which a user can configure and control it (figure 18, column 4 lines 38-41).

Regarding claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer readable memory embodying the method described in claim 10 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 10).

Regarding claim 38, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer readable memory embodying the method described in claim 11 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 11).

Regarding claim 39, when read in light of claim 37,Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires

machine readable instructions, therefore a computer data signal embodying the method described in claim 12 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 12).

Regarding claim 40, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 13 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 13).

Regarding claim 41, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 14 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 14).

Regarding claim 42, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 15 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 15).

Regarding claim 43, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 10 with the additional limitation of claim 7 is taught by Ludwig in view of Okuno and Saka (see analysis of claims 10 and 7).

Regarding claim 44, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 16 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 16).

Regarding claim 45, when read in light of claim 37, Ludwig, Okuno, and Saka all implement their inventions in hardware, which inherently requires machine readable instructions, therefore a computer data signal embodying the method described in claim 17 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 17).

Regarding claim 46 Ludwig, Okuno, and Saka all implement their inventions in hardware, and therefore teach a system with means for carrying out the method described in claim 1 is taught by Ludwig in view of Okuno and Saka (see analysis of claim 1).

7. Claims 6, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Okuno (US 6,977,672 B1) and Saka (US 2004/0070608 A1), and further in view of Shneiderman (US 7,010,751 B2).

Regarding claim 6, when read in light of claim 5, Ludwig in view of Okuno and Saka teaches the method of claim 5.

Ludwig in view of Okuno and Saka does not teach automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

Shneiderman teaches automatically transferring the annotation to an "image aspect" (a physical device would qualify as an image aspect, col. 7 ll. 23-25) in an image if the annotation is at least partially drawn over the physical device as it appears in a live video image (col. 7 ll. 29-32, col. 4 ll. 27-29, see fig. 5 annotation of Rae Earnshaw). It would have been obvious to one of ordinary skill in the art at the time the invention was made to annotate aspects of images for the benefit of making annotations more specific to certain attributes of an image rather than the entire image.

Regarding claim 8, Ludwig in view of Okuno and Saka further teaches the information can include a digital file (Okuno column 4 lines 25-29), a sound (Okuno column 4 lines 29-32), and an audio/video presentation (Okuno column 4 lines 29-32).

Ludwig in view of Okuno and Saka does not teach the information can include an annotation.

Shneiderman teaches the information can include an annotation (page 3 section 0055-0056). It would have been obvious to one of ordinary skill in the art at the time the invention was made to annotate aspects of images for the benefit of making annotations more specific to certain attributes of an image rather than the entire image.

Regarding claim 15, Ludwig in view of Okuno and Saka teaches the method of claim 14.

Ludwig in view of Okuno and Saka does not teach automatically transferring the annotation to the physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

Shneiderman teaches automatically transferring the annotation to an "image aspect" (a physical device would qualify as an image aspect, col. 7 ll. 23-25) in an image if the annotation is at least partially drawn over the physical device as it appears in a live video image (col. 7 ll. 29-32, col. 4 ll. 27-29, see fig. 5 annotation of Rae Earnshaw). It would have been obvious to one of ordinary skill in the art at the time the invention was made to annotate aspects of images for the benefit of making annotations more specific to certain attributes of an image rather than the entire image.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Okuno (US 6,977,672 B1) and Saka (US 2004/0070608 A1), and further in view of Emens et al (US 6,463,343 B1).

Regarding claim 7, when read in light of claim 1, Ludwig in view of Okuno and Saka teach the method of claim 1.

Ludwig in view of Okuno and Saka does not teach that the first live video image and the second live video image are the same.

Limitation "the first live video image and the second live video image are the same", in light of claim 1 limitation "selecting a first physical device in a first live video image …;
causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information" is taught by Emens column 1 lines 57-60 and figure 2c, in which a user can select a device to control amongst a plurality of devices in a single live image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Emen's teaching of being able to select a device to remotely control from a plurality of devices in a single live image with the invention taught by Ludwig in view of Okuno and Saka. This combination of inventive ideas would enable videoconference participants to remotely control devices in a room without adjusting the camera angle to zoom in on each device.

9. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Shneiderman (US 7,010,751 B2).

Regarding claim 18, Ludwig teaches a method for annotating a live video image wherein the annotation is visible to at least one participant in a shared interactive
environment (fig 2b, col. 6 ll. 57-61. Updates/annotations are made to the image in real time).

Ludwig does not teach annotating the live video image and automatically transferring the annotation to a physical device in the live video image if the annotation is at least partially drawn over the physical device as it appears in a live video image.

Shneiderman teaches a method for annotating video image comprising annotating the live video image and automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image (col. 7 ll. 29-32, col. 4 ll. 27-29, see fig. 5 annotation of Rae Earnshaw). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the annotation capabilities of Shneiderman in the videoconferencing system and method taught by Ludwig for the benefit of easily and clearly communicating information about image aspects in a videoconferencing image to other participants.

Regarding claim 21, when read in light of claim 18, Ludwig in view of Shneiderman teaches the method of claim 18.

Ludwig in view of Shneiderman does not teach the live video image is one of: a panoramic view and a zoomed view.

Official notice is taken that panning and zooming are well known and widely used tools in video surveillance and conferencing systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include panning and zooming capabilities in the videoconferencing system taught by Ludwig in view of Shneiderman for the benefit of allowing videoconference participants to have access to view of any resources in the collective rooms, such as whiteboards or illustrative models.

10. Claims 19-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (US 7,185,054 B1) in view of Shneiderman (US 7,010,751 B2), and further in view of Okuno (US 6,977,672 B1).

Regarding claim 19, when read in light of claim 18, Ludwig in view of Shneiderman teaches the method of claim 18.

Ludwig in view of Shneiderman does not teach at least one participant can interact with the physical device.

Okuno teaches an video in which a viewed physical devices can be controlled

remotely by a participant (column 4 lines 38-41, figure 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Okuno's teaching of using remote camera control and a live video image of a device in order to remotely manipulate/interact with devices that are not physically reachable.

Regarding claim 20, when read in light of claim 18, Ludwig further teaches each of the at least one participants can interact with the shared interactive environment through different computing devices (col. 6 ll. 28-51).

Regarding claim 22, when read in light of claim 18, Ludwig in view of Shneiderman and Okuno further teaches the physical device can include a display, a projector, a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer. Okuno discloses in column 5 lines 58-64 that commands can be executed on devices with addresses, such as IP addresses. It is well known in the art that displays, projectors, facsimile machines, personal digital assistants, computers, and portable computers can have IP addresses associated with them.

Regarding claim 23, when read in light of claim 18, Ludwig in view of Shneiderman and Okuno further teaches the physical device has associated with

it a pop-up control panel through which a user can configure and control it (Okuno figure 18, column 4 lines 38-41).

11. Claims 24, 26-27, 30, 32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1), and further in view of Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Schneiderman (US 7,010,751 B2).

Regarding claim 24, Emens teaches a shared interactive environment, comprising:

a camera system to provide a first live view and second live view (col. 3 ll. 8-9, where the first live view and second live view are the same in this instance; col. 5 ll. 15-20 teaches multiple cameras for providing multiple different views, or a moving camera for providing different views from one camera);

a first graphical user interface (GUI) coupled to the camera system and to present the first live view and the second live view, wherein the views can capture a physical device (abstract);

a device controller to dynamically control the physical device in response to interaction of a first user with the GUI.

Emens does not teach the second live view can be configured to zoom in on a portion of the first live view;

wherein the interaction can including annotating at least one of 1) the first live view; and 2) the second live view (fig. 2e, col. 3 ll. 10-11);

wherein annotations are automatically transferred to the physical device in the live views if the annotation is at least partially drawn over the physical device as it appears in the live video;

a device tracker coupled to the camera system and to dynamically recognize new physical devices; and

wherein the camera system can be mounted on a mobile, robotic platform.

In regards to limitation "wherein the second live view can be configured to zoom in on a portion of the first live view", official notice is taken that zooming is a well known and widely used tool in video surveillance and conferencing systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include panning and zooming capabilities in the interactive environment taught by Emens for the benefit of allowing videoconference participants to have access to view of any resources in the collective rooms, such as whiteboards or illustrative models.

Ayatsuka teaches a camera connected to a computer that can detect and recognize devices in the camera's view, and allows the viewed device to be controlled by the computer (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the device detection capabilities taught by Ayatsuka in the device control system

taught by Emens for the benefit of allowing a user to register devices for control by a computer system without manually entering information for each device.

Burt teaches a robotic camera that detects and tracks a target (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Burt's teaching of a robotic camera that keeps targeted objects in its line of view in the interactive environment taught by Emens in view of Ayatsuka for the benefit of maintaining a view of devices that the user may want to exercise control over. Burt's abstract teaches the application of this concept to automated surveillance in the abstract.

Regarding limitations "wherein the interaction can including annotating at least one of 1) the first live view; and 2) the second live view (fig. 2e, col. 3 ll. 10-11); wherein annotations are automatically transferred to the physical device in the live views if the annotation is at least partially drawn over the physical device as it appears in the live video", Schneiderman teaches annotating an "image aspect" (col. 7 ll. 4-9), where an image aspect is defined as "a scene, **object**, event, design, etc" (col. 7 ll. 23-25). A "device", by definition, encompasses any thing made for a particular purpose. Therefore any object that has a purpose qualifies as a device. The annotation applies to the image aspect which it is drawn over. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include annotating capabilities in the live views shown in Emens for the benefit of labeling and identifying the various devices shown in Emen's user interface.

Regarding claim 26, when read in light of claim 24, Emens further teaches the device controller can control the physical device through at least one of: 1) an infrared communication channel; and 2) one or more networks (fig. 1 col. 5 ll. 26-31).

Regarding claim 27, when read in light of claim 24, Emens in view of Ayatsuka and Burt further teaches the device tracker can recognize new physical devices by at least one of: 1) image pattern recognition (Burt pg. 3 col. 2 paragraph 2, fig. 2); 2) radio frequency transmission; and 3) acoustic signal.

Regarding claim 30, when read in light of claim 24, Emens further teaches the GUI is implemented as one or more web pages (col. 2 ll. 60-65).

Regarding claim 32, when read in light of claim 24, Emens further teaches the physical device has a pop-up control panel that can be made apparent to the first user through the first GUI and wherein the pop-up control panel allows the first user to control and configure the physical device (fig. 2e).

Regarding claim 34, when read in light of claim 24, both Emens and Ayatsuka teach software based control schemes for controlling objects and devices. It is inherent that the physical device can be represented by a set of

attributes and a set of behaviors, as those are the only ways of representing an object to a computer program.

Regarding claim 35, when read in light of claim 34, Emens in view of Ayatsuka and Burt teach the shared interactive environment of claim 34.

Emens in view of Ayatsuka and Burt does not teach the representation of the physical device is part of a device hierarchy.

Both Emens and Ayatsuka teach software based control schemes for controlling objects and devices. Object oriented programming is an obvious approach to developing such software, as each device has its own attributes and control routines. The concept of classes and inheritance are well known and often used to create programs that support a variety of objects. Official notice is taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use objects and inheritance to implement device control software for the benefit of optimizing the software and reducing redundancy in the application programming for devices that may share similar functions.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. “Object tracking with a moving camera”, IEEE An Application of Dynamic Motion

Analysis. 1989 pp. 2-12, and Schneiderman (US 7,010,751 B2), and further in view of Andersson (US 2002/0111999 A1).

Regarding claim 25, when read in light of claim 24, Emens in view of Ayatsuka and Burt teaches the interactive environment of claim 24 and suggests implementing device control in a video teleconferencing environment (fig. 5), but does not disclose multiple users having access to the system (i.e. the first GUI allows the first user to interact the physical device; and wherein the interaction of the first user is apparent to a second user via a second GUI).

Andersson teaches a system that allows networked computers to access and control devices connected to any computer on that network, where both host and remote computers can monitor device events (pg. 2 sect. 0019, 0023). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the remote access and device monitoring capabilities taught by Andersson in the shared interactive environment taught by Emens in view of Ayatsuka for the benefit of enhancing collaboration and making a more realistic environment for users who may share resources.

13. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. "Object tracking with a moving camera", IEEE An Application of Dynamic Motion

Analysis. 1989 pp. 2-12, and Schneiderman (US 7,010,751 B2), and further in view of Hildebrandt (US 2004/0070616).

Regarding claim 28, when read in light of claim 24, Emens in view of Ayatsuka and Burt teaches the interactive environment of claim 24, wherein the physical device can be a display (Ayatsuka fig. 5, col. 22 ll. 63-67).
Emens in view of Ayatsuka and Burt does not teach the display can include an image stack.

Hildebrandt teaches an archive memory for use with an electronic whiteboard in which images associated with the whiteboard are grouped and saved. These images are stored as a stack, where the oldest image is deleted when a new image is added (see fig. 22 el 524). It would have been obvious to one of ordinary skill in the art at the time the invention was made to store a plurality of images captured from a display for the benefit of allowing a user to continually use a display resource while stil being able to access data previously represented on that display.

14. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al. “Object tracking with a moving camera”, IEEE An Application of Dynamic Motion

Analysis. 1989 pp. 2-12, and Schneiderman (US 7,010,751 B2), and Andersson (US 2002/0111999 A1), and further in view of Westfield (US 6,677,979 B1).

Regarding claim 29, when read in light of claim 25, Emens in view of Ayatsuka, Burt, and Andersson teaches the shared interactive environment of claim 25.

Emens in view of Ayatsuka, Burt, and Andersson does not teach the first GUI can provide a second live view that is different from the second live view provided by the second GUI.

Ayatsuka suggests one environment in which devices remotely controlled through a camera view could be used is in a teleconference (fig. 5).

Westfield teaches a teleconference environment in which a participant can see 2 views, where the second view can be specified for each participant (abstract, fig 8b, fig 7 and col. 2 ll. 46-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the multiple views of an environment taught by Westfield in the interactive environment taught by Emens in view of Ayatsuka, Burt, and Andersson for the benefit of more closely mimicking human vision by providing both wide angle and focused views (col. 1 ll. 43-54).

15. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emens et al (US 6,463,343 B1) in view of Ayatsuka et al (US 7,188,139 B1) and Burt et al.

"Object tracking with a moving camera", IEEE An Application of Dynamic Motion Analysis. 1989 pp. 2-12, and Schneiderman (US 7,010,751 B2), and further in view of Westfield (US 6,677,979 B1).

Regarding claim 31, when read in light of claim 24, Emens in view of Ayatsuka and Burt teaches the shared interactive environment of claim 24.

Emens in view of Ayatsuka and Burt does not teach the first user can select the second live view by drawing a diagonal in the first live view. Westfield teaches a teleconference environment in which a participant can see 2 views, where the second view can be specified by a participant dragging a rectangle across the image in the first view. (abstract, fig 8b, fig 7 and col. 6 ll. 38-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the zoomed view of an environment taught by Westfield in the interactive environment taught by Emens in view of Ayatsuka, Burt, and Andersson for the benefit of more closely mimicking human vision by providing both wide angle and focused views (col. 1 ll. 43-54).

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

3. Lennon (US 6,711,590 B1) teaches a method of linking metadata, such as an annotation, to objects in a moving video.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASMINE STOKELY-COLLINS whose telephone number is (571) 270-3459. The examiner can normally be reached on M-Th 9:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jasmine Stokely-Collins/
Examiner, Art Unit 2423

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2423